

Notice of Allowability

Application No.

10/748,998

Examiner

Phuong Phu

Applicant(s)

DASGUPTA ET AL.

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on 11/15/07.
2. ☒ The allowed claim(s) is/are 1-8, 23, 24 and 28-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 11/15/07. Accordingly, claims 1-8, 23, 24 and 28-39 are currently pending; and claims 9-22 and 25-27 are canceled.

REASONS FOR ALLOWANCE

2. Claims 1-8, 23, 24 and 28-39 are allowed.
3. The following is an examiner's statement of reasons for allowance:

-Regarding independent claim 1, none of prior art of record teaches or suggests a method for computing distances between a received point for a tone received in a receiver and four points in a two-dimensional grid with a constellation representing a number of bits greater than three, the method comprising: determining a first point on a grid nearest to the received point; computing a second point closest to the received point inside a specified area after determining the first point; computing a third, a fourth, and a fifth point, after computing the second point, wherein each of the second, the third, the fourth and the fifth points is a member of a different coset in the constellation and is the closest point in its coset to the received point; and computing distances from the received point to each of the second, the third, the fourth, and the fifth points.

-Regarding independent claim 28, none of prior art of record teaches or suggests a method for computing distances between a received point for a tone received in a receiver and a plurality of coset points in a two-dimensional grid with a constellation representing a number of bits greater than three, the method comprising: determining a received grid point on a grid nearest to the received point; determining whether the received grid point is valid; determining an alternate grid point inside a specified area if the received grid point is determined to be not valid; assigning the received grid point to a first coset point of the plurality of coset points if the

received grid point is valid; assigning the alternate grid point to the first coset point of the plurality of coset points if the received grid point is not valid; computing remaining coset points of the plurality of coset points within the specified area, wherein each coset point is a member of a unique coset and is the closest point in its coset to the received point; and computing distances from the received point to each coset point of the plurality of coset points.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (8:00 AM - 4:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHUONG PHU
PRIMARY EXAMINER



Phuong Phu
01/22/08

Phuong Phu
Primary Examiner
Art Unit 2611